DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-006949
Date Inspected: 28-May-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name:	Chen Chih Chien	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☐ Yes ☐ No ☑ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: OBG crossbeams

Summary of Items Observed:

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG cross beam CB1(in superstructure trial assembly)

This QA observed that the contractors personnel are continuing to align this crossbeam to the east and west lines. No other significant work was observed on this crossbeam during the time QA was present.

OBG cross beam CB2 (in superstructure trial assembly)

This QA observed ZPMC personnel installing side panel stiffener splice plates. No other significant work was observed on this crossbeam during the time QA was present.

OBG cross beam CB3 (in superstructure trial assembly)

This QA observed the contractors personnel installing outrigger drilling templates to the deck panel on this crossbeam. No other significant work was observed on this crossbeam during the time QA was present.

OBG cross beam CB4

This QA observed that this crossbeam is still in the paint bay. The contractor has blasted and primed the outside surfaces. Inside surfaces have not yet been blasted. No significant work was observed on this crossbeam during the time QA was present.

OBG cross beam CB5

This QA observed ZPMC qualified welding personnel identified as 067447 perform FCAW welding on weld joint identified as CB202A-001-017. ZPMC QC identified as Mr. Guo Yuan Ting was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2232-Tc-U4b-F.

This QA observed ZPMC qualified welding personnel identified as 204338 perform FCAW welding on weld joint identified as FB204-008-053 and 054. ZPMC QC identified as Mr. Guo Yuan Ting was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2231-B-U2-F.

This QA observed ZPMC qualified welding personnel identified as 066746 perform FCAW welding on weld joint identified as CB202A-001-005. ZPMC QC identified as Mr. Guo Yuan Ting was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2232-Tc-U4b-F.

OBG cross beam CB6

This QA observed that no significant work was being performed on this crossbeam during the time this QA was present.

OBG cross beam CB7

This QA observed that no significant work was being performed on this crossbeam during the time this QA was present.

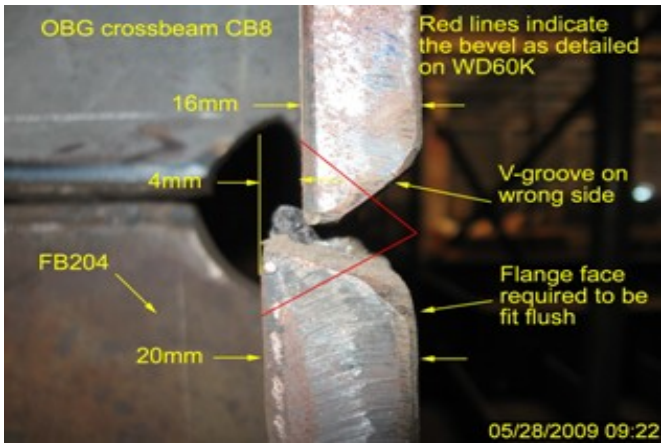
OBG cross beam CB8

During random joint fit up inspection this QA observed that the contractor appears to have deviated from the weld details on weld joints identified as FB204-057 (3rd floorbeam from the north end), FB204-050 (1st and 3rd floorbeam from the north end), FB205-026 (2nd, 3rd and 4th floorbeam from the north end). The joints appear to be beveled from the wrong side. The weld joints in question are transition of thickness joints. Material thicknesses are 20mm and 16mm. The face of the floorbeam flange is required to be a flush fit. The applicable Weld Detail WD60K specifies that the root face area of the joint be on the flush fit side of each plate. See attached photo for details. This QA notified ZPMC QA identified as Mr. Shen Xuejun and ABF QA inspector identified as Mr. Kelvin Cheung of these non conforming joints and that an incident report would be generated for this issue.

During random joint fit up inspection this QA observed two floorbeam diaphragm Complete Joint Penetration (CJP) weld joints that appeared to be misaligned beyond the tolerances of AWS D1.5 2002 section 3.3.3 which states parts to be joined by groove welds shall not be misaligned by more than 10% of the thickness of the thinner part or a maximum of 3mm. The joints in question appeared to be misaligned 5mm and 6mm. See attached photo

for details. The weld joints are identified as FB204-070 (2nd floorbeam from the north end) and FB205-032 (2nd floorbeam from the north end). This QA also observed two excessive root openings. One of the joints is a fillet weld joint identified as CB202G-155 and 156 (4th floorbeam from the north end). The root opening measured from 6mm to 10mm. The other joint is a CJP identified as FB205-029 (1st floorbeam from the north end). The root opening measured 10mm to 11mm. This QA informed ZPMC QC CWI identified as Mr. Chen Chih Chien and ABF QA inspector identified as Mr. Peng Wen Jun of these issues. Mr. Chen and Mr. Peng informed this QA that the misaligned joints would be corrected prior to welding, the excessive root opening on the CJP would be buttered (build up by welding) prior to welding the joint and the excessive fillet weld root opening would be changed to a CJP weld per approved submittal# 200, Rev. 2 dated Feb. 12, 2009. The proposed resolutions to these misalignment and root opening issues appear to be within the general scope of the contract documents and no incident report will be generated provided the contractor follows through with the proposed resolutions as outlined above.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



Summary of Conversations:

As mentioned above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang (15000422372), who represents the Office of Structural Materials for your project.

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Prue,Erik	QA Reviewer